

Indiana Center for Breast Cancer Research

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The mission of IUPUI breast cancer signature center is to address prevention, early detection, and treatment of breast cancer through translational projects, supportive cores, and synergistic programs. This poster details our efforts improve resources for breast cancer research and efforts to develop multi-PI investigator proposals. The Signature Center has developed two web resources: the Breast Cancer Prognostics Database (PROGgene) to study prognostic implications of genes of interest in publically available breast cancer databases and PROGmiR, a microRNA database. The PROGgene can be used to study overall, recurrence free and metastasis free survival in large patient series. PROGmiR allows investigators to study the prognostic importance of microRNAs. Both PROGgene and PROGmiR have recently been published and accessed by investigators from >10 countries. The signature center has also devoted considerable efforts in developing tumor tissue resource. Tissue Bank includes a total sample of N = 600 cases with 30% non-Caucasian cases. Currently 460 cases have been assembled into a Tissue Microarray with clinical and follow up data. Expression pattern of AP2 γ , a potential marker of breast cancer progression, has been analyzed in a TMA with ~170 cases. The breast cancer signature center has funded four pilot projects and projects for the fourth round of funding are currently under review. Drs. Clark Wells received funding for the project “Histologic Analysis of the Protein Levels of Amot130, AmotL1 and YAP in Normal, Hyperplastic and Invasive Breast Cancer Tissues”, which resulted in a publication in PNAS. Dr. David Gilley and his group received funding for the project: “Luminal mammary progenitors are a unique site of telomere dysfunction”, which was published in Stem Cell Reports. In the third project, Dr. Theresa Guise is investigating the mechanisms of cancer-associated muscular dysfunction with a future plan for a clinical trial. Drs. Ken Nephew and Milan Radovich received funding to obtain preliminary results for a multi-PI R01 or P01, which will explore genomics and epigenomics of breast cancer using clinical trial materials. Progress made by the signature center was integral in our request to Vera Bradley Foundation for Breast Cancer. This foundation has recently committed \$15 million for the breast cancer program, which will be used to develop three themes of research with a focus on personalized therapies to improve outcome in breast cancer patients.